
Title

Contribution to the staging and immunological study of equine recurrent airway obstruction (RAO).

Abstract

Recurrent airway obstruction (RAO) is one of the most frequent lung diseases in horses and is similar to human asthma.

We characterized equine RAO differential diagnosis (DD) in horses with long term cough and established a parallel between the DD in equine RAO and in human asthma. We correlated clinical, endoscopic, thoracic X-ray and bronchoalveolar lavage fluid scores in horses with RAO to establish relevance of each factor for the characterization of RAO stages in order to suggest a staging method. Cardiovascular effects of RAO were assessed. We also evaluated the response to skin prick tests (SPT) and *in vitro* allergy tests with common aeroallergens in horses with RAO and characterized RAO in Portugal by identifying relevant allergic factors.

The importance of a thorough diagnosis is emphasized, including BAL and respiratory endoscopy, and a DD parallel is made with vocal cord dysfunction in man. A score model for the characterization of RAO stages is suggested. The first ECG and EcoCG values for Lusitano/Lusitano-cross horses are published with subtle changes in the RAO group. In this highly selected population immediate aeroallergen hypersensitivity was significant, allergy being a probable aetiopathogenic mechanism in all RAO group horses.

Keywords: Horse, Recurrent airway obstruction, Skin prick tests, IgE, Endoscopy, Bronchoalveolar lavage, Thoracic X-ray, Clinical scores, Staging, ECG, Ecocardiogram